



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0701; Directorate Identifier 2013-NM-073-AD; Amendment 39-17768; AD 2014-04-09]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 727 airplanes. This AD will complete certain mandated programs intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. This AD requires repetitive inspections for cracking of small repairs done on the vertical flange of the rib chord, repetitive inspections for cracking along the upper fillet radius of the rib chord, and a large repair or preventive modification if necessary. Accomplishment of a large repair or preventive modification terminates the actions of this AD. We are issuing this AD to prevent cracks in the rib upper chord, which could result in the inability of the wing structure to support the limit load condition, and consequent loss of structural integrity of the wing.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2013-0701; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Chandraduth Ramdoss, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Blvd, Suite 100, Lakewood, CA 90712-4137, phone: 562-627-5329; fax: 562-627-5210; email: [Chandraduth.Ramdoss@faa.gov](mailto:Chandraduth.Ramdoss@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 727 airplanes. The NPRM published in the Federal Register on August 27, 2013 (78 FR 52875). The NPRM proposed to require repetitive inspections for cracking of small repairs done on the

vertical flange of the rib chord, repetitive inspections for cracking along the upper fillet radius of the rib chord, and a large repair or preventive modification if necessary.

Accomplishment of a large repair or preventive modification would terminate the actions of the NPRM. We are issuing this AD to prevent cracks in the rib upper chord, which could result in the inability of the wing structure to support the limit load condition, and consequent loss of structural integrity of the wing.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (78 FR 52875, August 27, 2013) and the FAA's response to each comment.

### **Request to Remove Statement of Difference Between NPRM (78 FR 52875, August 27, 2013) and Service Information**

Boeing requested that we revise "Differences Between the Proposed AD and the Service Information" in the NPRM (78 FR 52875, August 27, 2013) to instead state that there are no differences. Boeing stated that the NPRM specified the same type, location, and interval of the inspections specified in Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997, for a small repair.

We find that clarification of the requirements of this final rule is necessary in light of the information provided in Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997. The post-small-repair inspection is described in Part III of the service information; some of this information is provided in notes, and the description of the area to be inspected needed slight clarification. To ensure that operators understand that all actions specified in Part III are required for compliance, and to give more specific direction to the area of inspection, paragraph (g) in this final rule specifies these actions, including the information in the notes, with slightly different wording to describe the inspection area. Since the inspection is a direct requirement of this final rule, there is a

difference between this AD and the service information. We have not changed this final rule regarding this issue.

### **Request to Refer to a Single Service Information Source**

Paragraph (g) of the NPRM (78 FR 52875, August 27, 2013) referred to actions specified in “Boeing 727 Service Bulletin 57-112; or Part III of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112.” Boeing stated that only one of these references is required. Boeing added that one of the references did not follow the standard format. Boeing therefore requested that we revise the NPRM to refer to only “Part III of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112.”

We disagree to revise the source of service information as cited in this final rule. We are required by OFR regulations to precisely specify all possible revisions of this service bulletin by their unique identities. Boeing Service Bulletin 727-57-0112 has actually been revised five times; some versions are old and were published in Boeing’s older service bulletin format. The earlier version (“Boeing 727 Service Bulletin 57-112”) does not have a separate “Accomplishment Instructions” section. Two citations are therefore necessary to refer to the description of the small repair actions in the service information. However, we have added Note 1 to paragraph (g) of this final rule to clarify the use of the different document citations.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the change described previously and minor editorial changes. We have determined that these minor changes:

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Are consistent with the intent that was proposed in the NPRM (78 FR 52875, August 27, 2013) for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 52875, August 27, 2013).

### **Costs of Compliance**

We estimate that this AD affects 106 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspections (per wing)	6 work-hours X \$85 per hour = \$510 per inspection cycle	\$0	\$510 per inspection cycle	Up to \$108,120 per inspection cycle per airplane

#### **On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Large repair <sup>1,2</sup>	300 work-hours X \$85 per hour = \$25,500	\$12,139	\$37,639
Preventive modification <sup>1,3</sup>	57 work-hours X \$85 per hour = \$4,845	\$10,614	\$15,459

<sup>1</sup>Cost for on-condition actions (either <sup>2</sup> or <sup>3</sup>), per wing.

<sup>2</sup>Cost for large repair, per wing.

<sup>3</sup>Cost for preventive modification, per wing.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2014-04-09 The Boeing Company:** Amendment 39-17768; Docket No. FAA-2013-0701; Directorate Identifier 2013-NM-073-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all The Boeing Company Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, certificated in any category.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

#### **(e) Unsafe Condition**

This AD will complete certain mandated programs intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. We are issuing this AD to prevent cracks in the rib upper chord, which could result in the inability of the wing structure to support the limit load condition, and consequent loss of structural integrity of the wing.

#### **(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Post-Repair Inspection**

For any small repair that has been done as specified in Boeing 727 Service Bulletin 57-112; or Part III of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112: Within 3,500 flight cycles after the small repair was installed or inspected as specified in Boeing Service Bulletin 727-57-0112, or within 18 months after the effective date of this AD, whichever occurs latest, do a high frequency eddy current inspection for cracking of the vertical flange of the rib chord from the inboard side, and do a detailed (close visual) inspection for cracking along the upper fillet radius of the rib chord, in accordance with Part III of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997. Repeat the inspections thereafter at intervals not to exceed 3,500 flight cycles until accomplishment of the repair or modification specified in paragraph (i) or (j) of this AD.

Note 1 to paragraph (g) of this AD: Boeing 727 Service Bulletin 57-112 and Boeing Service Bulletin 727-57-0112 are both versions of the same document. The formatting of service bulletins was revised by Boeing following publication of Boeing 727 Service Bulletin 57-112, Revision 1, dated April 23, 1976. Boeing Service Bulletin 727-57-0112, Revision 2, dated May 19, 1988, was published using Boeing's revised formatting.

**(h) Inspection Definition**

For the purposes of this AD, a detailed inspection is an intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required.



**(i) Corrective Action for Cracks**

If any crack is found during any inspection required by paragraph (g) of this AD, before further flight, do either action specified in paragraph (i)(1) or (i)(2) of this AD. Accomplishment of either action terminates the requirements of paragraph (g) of this AD.

(1) Do a large repair, in accordance with Part IV of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997.

(2) Do a preventive modification, in accordance with Part V of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997.

**(j) Optional Terminating Action**

Accomplishment of the actions specified in either paragraph (j)(1) or (j)(2) of this AD terminates the requirements of paragraphs (g) and (i) of this AD.

(1) A large repair, in accordance with Part IV of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997. Any crack found must be repaired before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(2) A preventive modification, in accordance with Part V of the Accomplishment Instructions of Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997. Any crack found must be repaired before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

**(k) Credit for Previous Actions**

This paragraph provides credit for the inspections, large repair, and modification specified in this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 727-57-0112, Revision 4, dated October 29, 1992.

**(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (m) of this AD. Information may be emailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(m) Related Information**

For more information about this AD, contact Chandraduth Ramdoss, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Blvd, Suite 100, Lakewood, CA 90712-4137, phone: 562-627-5329; fax: 562-627-5210; email: [Chandraduth.Ramdoss@faa.gov](mailto:Chandraduth.Ramdoss@faa.gov).

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Service Bulletin 727-57-0112, Revision 5, dated July 31, 1997.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on February 14, 2014.

Jeffrey E. Duvon,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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